

Two New Species of *Perdita* from Arizona and Utah (Hymenoptera, Andrenidae)

P. H. TIMBERLAKE

DEPARTMENT OF ENTOMOLOGY, UNIVERSITY OF CALIFORNIA
RIVERSIDE, CALIFORNIA 92502

RECEIVED FOR PUBLICATION JULY 30, 1976

Abstract: *Perdita eickworti* n. sp. is described from Arizona and *P. cornishiana* n. sp. from Utah. The types will be deposited in the collection of Cornell University, Ithaca. A note on the occurrence of *Perdita foveata* in Florida is also included.

Perdita (Hexaperdita) foveata foveata Timberlake

New Record.—Four females, 2 males, Arcadia, Desoto County, Florida, at flowers of *Coreopsis*, April 27, 1974 (G. Eickwort); 5 males, St. Petersburg, Pinellas County, April 9, 1974 (G. and K. Eickwort).

These specimens are almost entirely dark. One female has a whitish mark on the middle of the clypeus, and two other specimens have a white dot on each side of the hind margin of the pronotum.

Perdita (Perdita) cornishiana, n. sp.

The male of *cornishiana* runs in the key to the *Octomaculata* Group (Timberlake, 1960) to *durangoensis*, couplet 176. It differs in somewhat paler yellow face marks, with inner margin of the subantennal plates dark green only on the lower two-thirds, legs yellow in front from the trochanters to tarsi, except hind tibiae and tarsi entirely dark, and abdominal bands more narrowly interrupted, with that on second tergite widened at outer ends and almost reaching lateral margins.

Male.—Head and thorax dark green, propodeum more bluish. Mandibles except apex, labrum and face below level of antennae rather pale yellow, but somewhat less than lower two-thirds of inner margin of subantennal plates broadly dark green. Supraclypeal mark high as wide, slightly narrowed above, with small median notch. Lateral marks ending obliquely and acutely at anterior end of foveae. Thorax dark except narrow rim of collar, spot on each side of hind margin of pronotum and irregular outer margin of tubercles yellow. Abdomen black, with rather narrowly interrupted yellow bands on tergites 2 to 4, that on tergite 2 least interrupted, widened at outer ends and almost reaching lateral margins; apical lobe of tergite 7 rufotestaceous. Scape of antennae yellow, with black mark above, not reaching base, flagellum dull yellow beneath and dark above. Legs yellow, with front and middle femora and tibiae and hind femora mostly black behind, but hind tibiae and tarsi entirely dark. Proboscis fuscous at base, with galeae and glossa testaceous. Tegulae subhyaline, yellow at base. Wings dusky hyaline, nervures fuscous, subcosta and margins of stigma darker, with disk of stigma narrowly pale.

Acknowledgment: Collection of specimens and publication of the manuscript were supported by National Science Foundation Grant No. GB-35954 (G. C. Eickwort, principal investigator).

Head large, broader than thorax and broader than long; cheeks receding, about half as wide as eyes, and broad at temple; occiput broadly and shallowly concave. Ocelli in broad triangle, posterior pair slightly less than their distance apart from occipital margin and somewhat more distant from margin of eyes. Facial foveae small and oval, close to margin of eyes. Antennae inserted below middle of face, scapes not reaching level of ocelli, flagellum subclavate, with middle joints as thick as long. Face below level of antennae moderately convex from side to side, with disk of clypeus broader than high, broadly truncate at summit, and with lateral extension narrowly visible in frontal aspect. Subantennal plates oval, pointed below, somewhat less than twice as long as wide. Antennal sockets about equidistant from each other and margin of eyes. Proboscis nearly twice as long as head, with galeae extremely long and slender. Pterostigma less than half as wide as first submarginal cell; marginal cell as long as stigma, longer beyond than beneath stigma, with metacarpus nearly twice as long as apical truncation. Frons and vertex microscopically granular, opaque and impunctate. Face below level of antennae comparatively smooth, shining and almost impunctate. Mesonotum minutely tessellate, more shining than frons, and with sparse, minute setigerous punctures. Metapleura and propodeum minutely tessellate, moderately shining with pleura punctured toward sternum. Pubescence white, fine and erect, moderately long and dense on cheeks, longer and thin on vertex, and becoming short, fine and subdepressed on each side of face between foveae and antennal sockets. Mesonotum with rather short, thin, erect hair, and apical fimbria on abdomen thin.

Length, about 6 mm; anterior wing, 4.6 mm; width of abdomen, 1.7 mm.

Holotype male, Cornish, Cache County, Utah, July 27, 1973 (G. Eickwort and G. Bohart)

Perdita (Perdita) eickworti, n. sp.

This species is placed confidently in the *Sphaeralceae* Group, and in the key (Timberlake, 1964) the female runs to couplet 110 and would go on to the next couplet with *punctulata* and *covilleae*, except that the face markings are trifurcate, with the dark color descending on each side of the supraclypeal area to unite with a dark mark on each side of the clypeus.

Female.—Head and thorax dark green, frons somewhat bronzy. Mandibles (except reddish tips), labrum, clypeus, lateral marks (ending bluntly against foveae and briefly intruding between them and eyes) and supraclypeal mark (intruding bluntly between antennal sockets) clear but rather pale yellow. Green of frons descending on each side of supraclypeal area, but more blackly, and uniting evenly with dark mark on each side of upper half of disk of clypeus, thus forming trifurcate design. Pronotum and tubercles yellow, except dark mark on lower part of flanks. Abdomen yellow with four moderately wide fuscous bands at junction of segments. Scape of antennae yellow, pedicel and flagellum fuscous, but narrowly yellow beneath. Legs including coxae yellow, but streak on middle tibiae behind, mark at apex of hind femora above and hind tibiae and tarsi fuscous.

Head much broader than long, with cheeks strongly receding, slightly more than half as wide as eyes. Posterior ocelli somewhat closer to margin of eyes than to each other. Frontal foveae deeply impressed, close to margin of eyes, about five times longer than wide and reaching from upper level of antennal sockets somewhat more than halfway to level of anterior ocellus. Antennae inserted below middle of face, with antennal sockets closer to each other than to margin of eyes; scape slender, flagellum slightly clavate, with middle joints as long as thick. Face below level of antennae gently convex from side to side; supraclypeal mark no higher than wide, but part below level of antennae broader than long. Disk of clypeus broader than high, truncate at summit, with lateral extensions narrowly reflexed and visible in frontal aspect. Mandibles apparently simple and not reaching far

margin of labrum. Proboscis moderately long, mainly concealed in type. Pterostigma half as wide as first submarginal cell and emitting radius somewhat beyond middle; marginal cell about equal beneath and beyond stigma, but metacarpus distinctly longer than apical truncation. Pygidial plate broader at base than long, with sides converging to rather narrow, slightly notched apex.

Frons and vertex minutely tessellate, moderately dull and with scattered minute punctures; face below level of antennae smooth, with shallow, small punctures on clypeus and supra-clypeal area. Mesonotum polished, minutely and sparsely punctured, but more closely and distinctly on scutellar and prescutellar areas. Mesopleura polished, with minute, well-separated punctures. Pubescence white, short, fine and thin, short and erect on mesonotum but more dense on prescutellar area. Hair of front coxae long, but thin, and scopal hair of hind legs somewhat longer than greatest width of tibiae.

Length, 4 mm; anterior wing, 2.8 mm; width of abdomen, 1.3 mm.

Holotype female, Joseph City, Navajo County, Arizona, July 31, 1973 (G. C. Eickwort).

Literature Cited

- TIMBERLAKE, P. H. 1960. A revisional study of the bees of the genus *Perdita* F. Smith, with special reference to the fauna of the Pacific Coast (Hymenoptera, Apoidea) Part IV. Univ. Calif. Publs. Ent., **17**: 1-156.
- . 1964. A revisional study of the bees of the genus *Perdita* F. Smith, with special reference to the fauna of the Pacific Coast (Hymenoptera, Apoidea) Part VI. Univ. Calif. Publs. Ent., **28**: 125-388.